Spring 2021

Elements of Effective, Engaging, and Enjoyable Education Environments

Ivan Harjehausen
University of South Carolina - Columbia

Elements of Effective, Engaging, and Enjoyable Education Environments

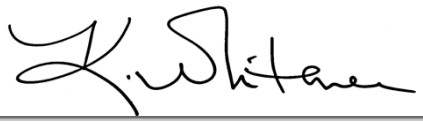
By

Ivan Harjehausen

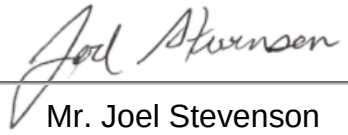
Submitted in Partial Fulfillment
of the Requirements for
Graduation with Honors from the
South Carolina Honors College

May, 2021

Approved:



Dr. Kathryn Whitener
Director of Thesis



Mr. Joel Stevenson
Second Reader

Dr. Steve Lynn, Dean
For South Carolina Honors College

Thesis Summary

The transition to online classes in 2020 due to the COVID-19 pandemic was very challenging for the public education system. It unveiled and exacerbated many deep-rooted issues in student learning, like how students are accustomed to doing the minimal work required by a teacher to attain a grade because students expect the teacher to direct their learning rather than themselves.

Through sourcing ideas from academic journals, books about education, business management, and psychology, as well as interviews of 16 educators, I will illustrate key strategies and perspectives that teachers can adopt to create effective teaching, both online and in-person. I integrate similar ideas from a variety of schools of thought because using crossover knowledge can yield great benefits when brought into the industry of education. I also draw on my personal experience teaching and tutoring American and Taiwanese high school students.

In this thesis, I explore three elements of effective education that promote student development. First, a classroom culture that encourages students to be responsible for managing their own learning rather than relying on the teacher can boost student learning. Two ways of accomplishing this are teachers communicating high expectations for students and teachers normalizing the concept of failure by acknowledging that making mistakes is an essential part of learning.

Second, teachers can model the skills and attitudes they hope to cultivate in students. Children learn by observing behavior of parents then imitating; these same learning mechanisms do not stop in childhood but rather continue into adulthood. Students need to observe the

thinking patterns of teachers and listen to teachers' stories of how they implemented life lessons in their own lives. This also applies for studying skills: teachers tell students to study, yet teachers rarely demonstrate what good study skills look like.

Third, effective education can teach students content knowledge while also developing students' life skills; they are not mutually exclusive. Teachers are directed to teach according to state and national standards, assessed by standardized tests, so teachers feel great pressure to focus solely on content knowledge. Yet, teachers can also teach life skills, like effective study habits and groupwork strategies, alongside the content knowledge. This yields benefits in students learning more content knowledge for the standardized exam and in being more prepared for self-sufficiency in life.

Finally, I present three takeaway recommendations to administrators about how public school districts can implement these elements into professional development for teachers.

Table of Contents

Introduction

The world is increasingly complex, globally interconnected, and rapidly changing. This idea has been espoused by countless people, yet the American public education system has made relatively few changes in schooling methods and philosophy to adapt to the vast changes in society to prepare students for success in the future. Students need to build skills for jobs that do not yet exist. Furthermore, many jobs currently existing are under threat of either being automated, like local cashiers at McDonald's and tax accountants, or outsourced internationally, like human resources, marketing, and IT systems. A chapter in Yuval Noah Harari's book *21 Lessons for the 21st Century* called "Education: Change Is The Only Constant" discusses how the next generations will be required to transition careers, be more adaptable, and learn new skills more rapidly than ever before. His advice for how to prepare students for the future is that, "Schools should switch to teaching 'the four Cs'– critical thinking, communication, collaboration and creativity" (Harari, Y.N., 2019). These are the skills that will help students adapt to the changes in the world and let them embrace the changes in careers.

New technologies like artificial intelligence, video calling, and online learning platforms provide people with opportunities to leverage their knowledge and capabilities to create more value to a wider audience than ever before. However, these technologies require the user to have the knowledge, capability, and vision to know which tool to use, how to use it, and when to use it. Our traditional learning systems are not designed to build these skills and thought processes. Instead, they are often focused on teaching standardized curriculums, which has been especially popular after the No Child Left Behind policy of 2001 which hoped to quantitatively evaluate the abilities of students nationwide. However, the focus on preparing students for standardized

exams undermines the true purpose of education: to prepare students to become self-sufficient adults who contribute to society. Educators need to reevaluate how they can prepare students for the future, redesign how they incentivize teachers and students to achieve this goal, and revise their teaching methodology to take advantage of students' interests, abilities, and innate desire to learn.

In business, the customer experience is highly valued. In public schools, students are the consumer, and yet their experiences and feedback are rarely heard or valued. Listening to the students can help teachers analyze the effectiveness of their own teaching, and it can help administrators make better policies which enable and reward students for exploring their curiosity. Throughout my tutoring experience I have been frequently reminded that my assumptions about what students are thinking were not accurate. By creating an accepting and non-judgmental atmosphere where students can tell me how I can better serve them, I have learned a tremendous amount about the process of learning and about how the minds of students work. Educational organizations at all levels can benefit from incorporating an attitude of humility and curiosity about what students and trainees think about the education service delivered.

Online education and homeschooling have been available and increasingly popular in the United States since the 1960s. These practices became more widespread during the COVID-19 pandemic. According to the World Economic Forum, between January and March of 2020, 1.38 billion students transitioned from in-person classes to remote learning environments. While some students benefited from new tools and freedom to develop their abilities, many students struggled to stay engaged in learning, falling behind in their curriculums. (Li, C., *The COVID-19 pandemic has Changed education Forever. This is how*.)

While being confronted with the biggest educational challenge in modern history, educators have an opportunity to reevaluate the way schools provide learning opportunities for students. I encourage educators to seek diverse sources of knowledge, from academic journals of education, to business management practices, to students themselves, to improve their teaching and administration.

Findings About Learning Environments

Takeaway 1: Students learn more in learning environments that encourage them to develop self-responsibility and that promote students self-regulating their own learning. In learning environments where failure is recognized as an integral part of the learning process, students are more engaged and motivated.

Encouraging Student Self-Responsibility for Learning

"And so we discovered that education is not something which the teacher does, but that it is a natural process which develops spontaneously in the human being. It is not acquired by listening to words, but by virtue of experiences in which the child acts on his environment."

- Maria Montessori, *The Absorbent Mind*

This Montessori quote directly contrasts a common classroom scene where a teacher lectures content knowledge to students then tells students exactly what to do, or where a teacher giving students rigid instructions so they can solve problems in the proper way, without leaving space for students to develop their own solutions using their intellect, curiosity, or creativity. This often creates a classroom culture where students do the minimum amount of work and thinking necessary to get the grade they desire, as opposed to concentrating on their learning, or focusing on reviewing and building on previous knowledge. I have witnessed this classroom culture in most of my schooling experiences, from elementary school through college classes.

Our schooling system uses grades as an indicator of succeeding or failing. A low grade is perceived as a failure. At early ages, many students come to think that they are unintelligent, and that they are failures. **When students struggle or do not get the grade they desire, educators and parents often step in to help the student rather than the student developing his or her own solution to improve learning and grade outcomes.** From the teacher's point of view, help is given in the form of extra time dedicated to struggling students, grade curves, dropping bad grades, and allowing work to be turned in late. Several teachers and administrators I interviewed said that parents frequently call the school to ask about certain grades or to advocate on behalf of their students. **In these cases, students are not held accountable for their responsibilities, so the burden of making a good grade is shouldered by parents and administrators.** Unfortunately, the opportunities for the student to grow his or her own abilities and self-confidence in solving problems is lost. Montessori observed similar negative patterns when children are helped too much in early development and in early schooling:

> "Although our natural inclinations are all toward helping [the student] in his endeavors, this philosophy teaches us never to give more help than is absolutely

> necessary. The child who wants to walk by himself, must be allowed to try, because what strengthens any developing power is practice, and practice is still needed after the basic power has been attained. If a child is always carried in someone's arms even to the age of three (a thing I have often seen happen), his development is not being helped but hindered. Direct independence has been reached, and the adult who keeps on helping becomes an obstacle." (Montessori, M., *The Absorbent Mind*)

Self-Regulation of Learning

Rewarding students for avoiding responsibility and waiting for someone else to help them is damaging to students and their independence and self-reliance. **One way to increase student responsibility is to teach students how to self-regulate their learning with metacognition: how to be aware of their learning patterns, how to record their thoughts and emotions, and how to self-analyze one's actions.** An article in Teaching in Lifelong Learning Journal about learner metacognition concluded that, "an essential aim of the [teaching] project was to challenge learners to take responsibility for their learning." As the participants developed their independence and self-responsibility for learning, participants "became more aware of the processes involved in enabling [self-reliant and independent learning] through scaffolded learning and, in particular, using formative feedback to both close the learning gap and motivate learners to recognize their successes" (McPartland, C., 2018). These researchers discovered that when students analyzed their thought patterns, students could realize their ability to direct their actions and have responsibility for their learning. **This increasing self-responsibility allowed**

teachers to let students grow in their independence, which can boost students' motivations for learning.

Failure is a Necessary Step in Learning

A second way of increasing student self-responsibility and independence is to promote a classroom culture where failure is acknowledged as a common and often necessary step in the learning process. This culture allows students the confidence and freedom to take risks and fail without fearing repercussions. Students are more likely to recognize that they failed in one task, analyze why they failed, learn from it, then move on. A current culture in many classrooms labels students who make low grades as failures. I have tutored many students who told me, "I am not good at Math" or that "I hate English because I am bad at writing." Upon deeper questioning, many of these students struggled in a Math or English class, then came to the conclusion that their intelligence was insufficient. This thought pattern disincentivizes them to persist through the struggle. **Students need to be told what they did wrong, that there is hope for improvement, and what the path of improvement looks like. Education is about the process of learning and improving, not about static assessment of ability.** According to Julie Lythcott-Haims, Stanford University's Dean of Freshman and author of the book *How to Raise an Adult: Break Free of the Overparenting Trap and Prepare Your Kid for Success:*

> "When children aren't given the space to struggle through things on their own, they don't learn to problem solve very well. They don't learn to be confident in their own abilities, and it can affect their self-esteem. The other problem with never having to

struggle is that you never experience failure and can develop an overwhelming fear of failure and of disappointing others. Both the low self-confidence and the fear of failure can lead to depression or anxiety." (Lythcott-Haims, J., 2016)

Learning is Fun Exploration

In the book *How Google Works*, written by Eric Schmidt, former CEO, and Jonathan Rosenberg, the senior vice-president of the company, a critical piece of advice they give to any company looking to enable the potential of workers and learners in an organization is to "establish a culture of Yes." Classrooms are similar to companies in that they are often bound by rigid structures which restrict students' creativity. The leaders of Google, one of the most successful companies enabling independence and creativity of employees, say, "Enough no's, and smart creatives stop asking and start heading to the exits. To keep this from happening, establish a culture of Yes...Saying yes is how things grow. Saying yes leads to new experiences, and new experiences will lead you to knowledge and wisdom" (Schmidt and Rosenberg, 2017). This culture of "Yes" might look like teachers willing to deviate from rigid lesson designs, to answer and encourage student questions in a discussion, to let students try out new learning methods, or to listen to student feedback and try out their recommendations for how to teach better.

The second lesson from this book is that **meaningful work (learning) can be enjoyable, even fun.** Schools too often associate learning with work, both of which often carry a negative connotation. However, one philosophy at renowned tech company Google is, "A great start-up, a great project - a great job, for that matter - should be fun, and if you're working your butt off

without deriving any enjoyment, something's probably wrong. Part of the fun comes from inhaling the fumes of future success. But a lot of it comes from laughing and joking and enjoying the company of your coworkers" (Schmidt and Rosenberg, 2017). While this advice is tailored towards business leaders and workers, this is no less true for teachers and students. Building skills and advancing in knowledge is exciting. Connecting positive, fun experiences with learning can encourage students to pursue learning as a lifelong goal.

Educator Sir Ken Robinson gives his advice in his TedTalk, viewed more than 20 million times on YouTube, "Do Schools Kill Creativity?" He says, **"The system has to engage [students], their curiosity, their individuality, and their creativity. That is how you get them to learn"** (Robinson, 2007). By giving responsibility for learning to the student and freedom to explore their curiosity and develop creativity, schools can unlock students' minds and let them expand.[HIA2]

Student-directed Projects and Assessments Foster Autonomy

What can be done to grow students' self-confidence and overcome a fear of failure? Many academic sources suggest that **teachers who guide student-generated assessments and student-chosen projects create the conditions where students develop a feeling of control of their success or failure because students understand the goals, expectations, and the work necessary to succeed.** "*Student-generated assessments* are the most unique and potentially powerful form of assessment because students determine how they might demonstrate proficiency on a particular topic. Student-generated assessments help develop student agency because they give some decision-making power to those who are being assessed" (Marzano,

2017). The level of guidance required by a teacher for these activities will change based on the age of the students, but at all ages, students that feel they have a sense of ownership and autonomy over what or how they are learning will increase students' motivation.

Eleventh grade high school history and economics teacher, David Ghenassia, told me about one strategy he uses where students can choose which projects they want to do from a "menu." Students choose the project they want based on their level of interest, motivation, and their strengths. Pick the grade you want, understand the requirements to get it, then you decide what you will do. To illustrate, if the student wants to receive a grade of A, they can undertake a more challenging project; if the student is content with a grade of B or C, they can reduce their workload by choosing an easier project.' Mr. Ghenassia said that these menus are effective for giving fast-learning and advanced students opportunities to develop their knowledge and skills beyond what would normally be expected.

This menu idea is adaptable for a wide range of ages of students. Jhon Lak, a 7th grade Social Studies teacher at Lakes and Bridges Middle School in Greenville, South Carolina, gives students the opportunity to develop independence and self-responsibility through an activity called Choose Your Own Project. In this activity, students choose a topic they are interested in, do online research about how their topic of choice connects to content covered in class, then do a creative project or presentation. He says it helps students who normally have low motivation or discipline to more easily plan for the grade outcome they desire. This format can reward students for being independent, creative, and disciplined. Furthermore, by allocating time in class where students work independently, teachers will be available to talk with students to give detailed feedback and engage in meaningful conversation either individually or in small groups. He

concluded, “Choose Your Own Project gives students opportunities to explore their curiosity, practice self-directed learning, and then succeed with a variety of learning styles.”

Self-directed learning is a strategy that can be used in professional development programs. Teacher trainers can highlight the efficacy of learners taking self-responsibility for their learning. I interviewed Jane Harrison, the Assistant Superintendent for Curriculum and Instruction at Anderson School District 1 to talk about how teachers learn and develop new skills. Mrs. Harrison manages the Professional Learning Communities professional development program. She told me about the training given to teachers in the spring of 2020 to prepare them for online learning during the pandemic:

> “The county-level instructional technologists teach teachers how to implement technology in the classroom by using a “Choose Your Own Tech Adventure” program. In this program, Teachers choose a self-directed learning program from a menu of choices, then the instructional technologists receive teachers’ work, give them online feedback, and are available to meet 1-on-1 if the teacher would like.”

An example of a Choose Your Own Project Menu is below. These menus can be adapted to any subject at almost every school level, middle school up to through college and professional development:

A	Creative Project + Written Description of How the Project Relates to Class Content	Can be a website, a song, an online prototype, or other way of applying the learning from class to the outside world. The creative projects allow students to connect outside knowledge and skills to classroom content.
A-	Design a Fun Classroom Activity	Create a lesson plan which you will use to guide the class on fun activities which will teach your classmates the content. After you think of an initial idea, share the idea with the teacher to get approval, helpful feedback, and guidance.

B	Presentation	Engaging presentation with visual aides (for example, PowerPoint or Prezi) with discussion questions for the class and suggestions of how to apply concepts in the world outside of class.
B-	Essay	At least 1,000 words, 3 citations, and 3 relevant Appendix attachments
C	Find or Create Your Own Worksheet, Complete The Questions, and Link 2 YouTube videos That Can Help You Understand the Content	Search the internet for a relevant worksheet, or make up questions. Then, search for two relevant YouTube videos and write down what you learned from them in no less than 4 sentences each.

D	Worksheet	Complete the worksheet questions given by the teacher.

The core of the activity is that **the student is in control of his or her learning, with guidance from a teacher.** This individual activity and self-chosen purpose is a critical part of the learning process.

Takeaway 2: When teachers model good attitudes and behaviors conducive to learning, students are more likely to accept and adopt the behaviors. It is not enough to just talk about the behavior; students need to see it in action by understanding how the teacher does the behavior, and students need to know why it is important to do the action.

Teacher Modeling Builds Trust and Increases Student Engagement

Teachers often tell students what they should do without modeling the behavior, making a discongruence between the words and behaviors of teachers. According to Professional Learning Specialist Katie Wright:

> "If we are not willing to engage in a struggle alongside our students, they inevitably discern what is valued in the learning environment is knowing the answer and being the expert. I see this trend frequently: a (very normal) feeling of trepidation with technology resulting in a strong desire for control. Yet if we want our students to discern the values of having a good struggle, grappling with big questions, and engaging in inquiry, we need to let go of our need for mastery and embrace the feeling of discomfort that comes with exploring something new alongside our students." (Wright, K., 2016)

Observing people and emulating them are how children learn language, social skills, and much of their knowledge about the world. These learning mechanisms do not stop at childhood

but instead continue on throughout our lives. **By modeling behavior and building relationships with students, teachers can cultivate an atmosphere where students are more likely to follow the guidance of the teacher.** In order to understand the nuances of complex concepts and to master complex skills, students need to see and hear how teachers and content experts approach problems. **This requires that the student trust the teacher**, and it requires modeling where the student can clearly see the effects of the modeled behavior so they buy-in to the usefulness of the techniques.

In a study published in 2015, eight middle school teachers were provided extensive coaching in integrating modeling into their instructional practices. These teachers taught 446 students. The study "compared these students' academic performance with those who were not enrolled in any classes with the teachers who had received coaching, and the results were impressive. There were significant gains in student achievement when their teachers modeled their thinking about reading on a daily basis" (Fisher, D., & Frey, N., 2015).

An example from a teacher in this study demonstrates what modeling reading skills looks like:

> "When reading the textbook passage entitled "It's Snowing", teacher Natalie Hanson decided to focus her modeling on the text features found in the book. For example, on page 5, she said, "I see a small box off to the side with some text inside it. I bet that will be a caption because I know that authors sometimes add information to help the reader make sense of an image or illustration. I like to read any captions that I find first because I don't want to be confused by the text or pictures, which can happen, and it's why authors add those captions." (Fisher, D., & Frey, N., 2015)

The teacher not only explains *what* she is doing, but she is also explaining *why* she is doing these actions, in a relatable and transparent manner. The students in her class reported that they felt more engaged in the poem when the teacher explained how she was thinking when deciphering the poem.

What Does Teacher Modeling Look Like

Another study explains how **teacher modeling of behavior can be adapted in a progression to gradually transition from teacher-directed and teacher-explained concepts to student-directed and student-explained concepts.** The authors lay out five stages where students gain increasing independence at higher stages. Stage one has the most direct teacher modeling and low student independence. Stage five has the least teacher modeling with highest student independence would be stage 5:

1. Complete teacher modeling - "Teacher models the complete performance, accompanied by verbal explanations. The teacher identifies the elements of the strategy while performing the operations necessary to complete the task" (Beed, P., Hawkins, E., & Roller, C., 1991).
    - Example: The teacher demonstrates how to factor a quadratic equation by separating it out into steps in a process and explaining why the teacher does each step.

2. Teacher modeling inviting student performance or input - “Modeling with verbal explanations, accompanied by some student participation. The teacher identifies the elements of the strategy and encourages the student to assist in completion of the task.”
    - Example: The teacher models the quadratic factoring process but will invite student participation at various points. After explaining the process of how the student needs to find two factors needed to multiply together to make the product 2x^2, the teacher asks, “What two factors multiply together to make 2x^2?”
3. Teacher directing student performance - “Verbal cueing concerning specific elements of the strategy. The teacher identifies the elements of the strategy as the student completes the task.”
    - Example: The teacher says, “Okay, this is the part where we need to find the two factors for 2x^2, can you tell me two factors that might work?”
4. Teacher cueing overall strategies - “Verbal cueing without reference to the specific elements of the strategy. The teacher refers to the name of the strategy”
    - Example: The teacher says, “Do you remember when we talked about the FOIL (First, Outside, Inside, Last) method of how two polynomials multiply together to make a standard quadratic equation? Think about how you can use the reverse of that to factor the equation. Alternatively, if you forgot how to use the FOIL method, maybe you could find some helpful internet articles or YouTube videos.”
5. Teacher providing general clues - “General verbal cueing, which will extend to any context and provides the least teacher support” (Beed, P., Hawkins, E., & Roller, C., 1991).

- Example: The teacher urges the student to action with a general request. "Are you stuck on how to proceed? Do you recall any techniques from class that might help you? If not, what other tools and resources can you use to help you find out how to solve this problem?"

Modeling in Professional Development

This finding also applies to **professional development trainers.** These trainers **can model good teaching techniques to teachers rather than merely reading from a PowerPoint about teaching techniques.** Kristin Hearn, Coordinator of Digital Learning at Anderson School District 1, emphasized, "Teacher trainers should model good teaching methods to teachers, just like teachers should model good behavior of students." She said that the district's Instructional Technology Training Team, created to aid teachers teaching remotely in the pandemic, directly models how to use educational technology tools in their training presentations. This has been highly effective in getting buy-in from teachers throughout the district to experiment with the new tools and that their skills improved. "After the interactive presentations and follow-up practice activities, teachers said they felt significantly more confident in their online teaching skills."

Furthermore, Mrs. Hearn mentioned how the interactive and engaging nature of the presentations created opportunities to build relationships with teachers. These personal connections meant that teachers trusted the trainers more and were more likely to take the advice from trainers.

David Ghenassia and Cathy Lacey both mentioned how professional development programs for teachers often take the form of PowerPoint lectures that do not give opportunities for active participation of teachers in the audience. Mr. Ghenassia mentioned how he and his coworker teachers have struggled to integrate some of the techniques mentioned in these professional development sessions because presenters did not model the types of training they were talking about. Mrs. Lacey said, "**Trainers should model professional development the way you should teach kids."**

Insights From My Personal Teaching Experience

In my SAT classes, I model my problem solving processes for students and explain verbally why I take each step and what each step accomplishes. Early in my SAT teaching experiences, I used to list off advice for students to solve different types of problems, like math word problems or grammar punctuation rules, then quickly moved onwards in my curriculum. However, I noticed that my students rarely implemented the advice I gave. In response, I started leading students through activities where they would attempt to verbalize and explain what they were doing. In doing so, they became aware of their current problem solving processes (or the lack thereof). Listening to my students built our relationship and our trust, resulting in them working more intentionally to implement the advice I gave.

However, trust alone was not enough. Even a motivation to accept a trusted teacher's verbal advice was not resulting in my students implementing the recommended strategies. This is when I began experimenting with modeling behavior. I now ask students, "Would you rather me verbally guide you to do the problem, or first demonstrate and explain how I would do the

problem, then you can use these techniques on the next problem?" A byproduct of asking this question is that the student feels valued and builds his or her sense of ownership in the learning experience (Takeaway 1) because the student has a degree of responsibility in guiding the learning. Students almost always pick the second option and are curious to learn how I do the problem.

When I model the problems then ask students to try the problems for themselves, they gain proficiency in skills much faster. All my 38 SAT students have improved their overall scores by at least 70-180 points.

Takeaway 3: Curriculum content and life skills reinforce one another and can be taught simultaneously. Teachers can use standardized curriculum as a vehicle for teaching and practicing life skills. These life skills will help students succeed mentally, socially, physically, and professionally.

What Are Current Schooling Goals?

The decision of *what* to teach students has long been contested. The current curriculum standards in the United States are so onerous that the pursuit of achieving them often results in digressing from the core goals of education. According to Marzano (2017), "At the beginning of the 21st century, researchers estimated that it would take about 15,500 hours to teach all the standards identified for K-12 students, yet there were only about 9,000 hours of instructional time available to do so." Given the limited resources and time, there is simply too much to teach, so many non-core subjects and skills are swept under the rug in lieu of strict Math and English. However, **educators should not omit teaching essential life skills. These underlying skills contribute to all facets of learning and development.**

What are the skills students need to learn in schools? I sought to unite similar ideas from writers and thinkers from different times and professional backgrounds. Goodlad J.I. (1979), an educational researcher, teacher, and theorist, identifies in his book *What Schools Are For* twelve skills and traits that schools should help students develop:

1. Mastery of basic skills or fundamental processes
2. Career education
3. Interpersonal relations

4. Autonomy
5. Citizenship
6. Creativity
7. Self-realization
8. Intellectual development
9. Enculturation
10. Self-concept
11. Emotional and physical wellbeing
12. Moral and ethical character

Additionally, an academic metaanalysis of many studies assessing the needs of students to be prepared for the 21st century workplace has an answer:

> "First, students need to solve complex-real world problems using critical thinking skills and creativity. Second, they must develop social skills to work in teams. Third, they must effectively use technology. Last, they need to learn how to learn, especially having a positive attitude. Education systems not only rely on internet access of students but also rely on utilizing effective online activities to develop these skills." (Anderson, T., B. Bell, L. Bencze, Wenger, E., 2019)

Similarly, Yuval Noah Harari, a history professor at Hebrew University in Israel wrote the book *21 Lessons for the 21st Century* with one chapter called "Education: Change Is The Only Constant." He discusses how the next generations will be required to transition careers, be more adaptable, and learn new skills more rapidly than ever before. To accomplish this, he advises, "Schools should switch to teaching 'the four Cs'– critical thinking, communication, collaboration and creativity" (Harari, Y.N., 2019). These are the skills that let students succeed in school and in life, especially in a world that is rapidly changing because of globalization and automation.

Importance and Immediate Relevance of Life Skills

Life skills are not just a skill for the future; students can benefit from them in the short term, and the short term effects can compound to bring success in future opportunities in college and the workplace. Grace Chapin, admissions officer at University of Chicago, explained how admissions teams at universities told me that universities care "not about who is able but instead who contributes to the ecosystem." According to her, students should show evidence of academic ability through success in high school curriculum, and these students should demonstrate that they take advantage of opportunities available to them. In other words, colleges are generally not as focused on the current knowledge that students have but the way that students can make an impact in their roles given to them by learning and analyzing problems, making action plans, collaborating with others, persisting through difficulty, and creating solutions. This is also true for businesses as well.

What would it look like to teach these skills in class? Is that feasible, given all the existing requirements on teachers? According to teacher Julie Richard, Drama teacher at Powdersville High School and 6th grade Art teacher at Powdersville Middle School, teaching life skills and content knowledge are not mutually exclusive. She described how she teaches life skills in her drama and art classes. She said:

> "The skills students learn in my classes transfer to many other subjects. In my art classes students practice learning from examples, focusing their attention and self-discipline, and analysing complex ideas into elements that can be discussed with partners. My theater classes and productions encompass a wide range of skills including

communication and collaboration, emotional self-regulation, empathy and tolerance for people of different religious and socioeconomic backgrounds, interview skills for jobs, history about the plays we perform, and more. Then students also learn how to deal with stress when life gets tough like learning to breathe. Meanwhile they make lifelong bonds and memories in the process. The students learn a lot!"

Personal Experience Teaching Life Skills Alongside Curriculum Content

These life skills can be taught alongside teaching content knowledge. In my online SAT classes, I lead students to practice social skills by teaching other students and leading group discussions. In other activities, students self-analyze their skills and struggles in learning the SAT then write down a plan for the skills and knowledge they need to develop, practicing independence and creativity. Each student can incorporate their knowledge of how they learn to creatively explain concepts in their own ways to make sure they understand it.

I also discovered as an SAT teacher that I can model many life skills and techniques while simultaneously teaching SAT content. Even though much of the knowledge required for the SAT does not directly apply to other fields, the underlying skills like mentally filtering the content in passage for important information applies to every job where workers need to read many words then decipher what is actually important. Teachers in almost all disciplines can strive to relate the content in their class to the world outside.

Examples of Life Skills and How They Boost Learning

Social and emotional development are essential parts of becoming an adult, necessary for collaborating with others and dealing with hardships in life. School programs that help students learn to self-reflect on emotions and to practice teamwork and discuss the implications can have strong benefits in the short term in school attendance and disciplinary issues, as well as long term benefits for career success. “For instance, the Cleveland Metropolitan School District engaged district-wide implementation of research-based social and emotional learning programs, and the creation of student support teams that addressed early warning signals such as discipline referrals and attendance issues. Results included improved student attendance districtwide, a 50 percent decline in negative behavioral incidents, and a districtwide reduction in use of out-of-school suspension” (Skiba & Losen, 2016). These types of programs are very helpful for improving student behavior and attendance in schools. When students spend more time engaging in classes in school, they will learn more content.

Many studies illustrate how life skills, like a high reading level can increase students’ future academic success and their overall success. Reading is a skill and habit that can guide lifelong learning and lead to career success. “Children who are introduced to books early are more prone to develop their language skills, and are in turn usually better in reading comprehension compared to children who are non-readers or reluctant readers.” (Loh, 2009). Loh continues by saying, “Children are taught to learn to read so that they can eventually read to learn. Reading is a powerful tool that enables one to acquire knowledge and understanding.” Developing reading skills by practicing reading with a variety of forms and subject matter can boost learning across a variety of subjects. Likewise, when a student is interested in a particular subject, like science, that student can learn to enjoy reading when given suggestions and time in class for reading interesting books that relate to science. Guiding students into lifelong reading

habits can set them up for success in careers and give them the confidence to learn from reading. One of the fundamental responsibilities of teachers is therefore teaching students to read.

Teaching students how to self-regulate their learning is a skill that can reap tremendous rewards in the short and long term. One journal article by Pravesti, Wiyono, & Handarini (2020) about self-regulated learning studied the positive effects of teaching students how to self-regulate their learning through three techniques. Since reading this article, I have attempted to incorporate these themes into my teaching:

Thinking Awareness – how students observe and evaluate their thinking behaviors then take actions to change their thinking processes based on self-reflection

Use of Strategy – how students plan and monitor learning strategy efficiency, and manage and control cognition (minimizing distractions, both internal thoughts but also changing the environment to suit themselves, like through reducing noise and clutter, and removing cellphones from the classroom). Students need to explicitly identify where they lack understanding and then, they need to identify what help they require to support their learning process. Students also learn what effective study habits are, then implement them (scheduling/time management, goal setting (Specific, Measurable, Feasible, Time-based). Students also experiment with learning techniques like active recall, creatively using recent knowledge learned in, teaching content to others (or explaining out loud to self), explaining to themselves why the knowledge is important ("how will I use this"). Another important strategy is effectively taking notes by hand because this requires students to determine what is important, what information they can use. Students also should schedule time for breaks and distractions.

Motivation Maintenance – Students need to determine their learning purpose. self-concept/confidence in abilities (does the student believe he/she can actually succeed), task goal orientation, celebrating success of achievements. Class environment which emphasizes personal responsibility, autonomy, and relation between personal effort and achievement contributes to self-regulated learning. Apprehension and anxiety about the possibilities of failing prevent learning. Emotional management is also important – regulating frustration, feelings of hopelessness – changing your physical state (sitting up straight, smiling, breathing deeply) has also been demonstrated to help.

Other life skills, like the three points listed below, **can help students to learn better than if the teacher never taught or discussed life skills for learning and collaborating.** While teaching SAT strategies I explain, model, and make assignments for students that teach SAT content knowledge while building their skills in these areas:

1. Memory techniques (visualizing applications of content, connecting content to personal experiences)
2. Study techniques (active recall, spaced repetition)
3. Self-reflection activities that work for any skill, any activity, or any event in a student's life. I ask students to pick a topic to analyze, like their performance on a recent practice test, or their interactions with peers at a recent social event:
    a. What happened? What actions did I take? What emotions might I feel about this event?
    b. How did my actions affect other people? How did this event happen? How did this emotion or situation affect how I acted?

c. Why did I do what I did? Why did I have a certain reaction of stress, hostility, or nervousness?
d. What lessons did I learn from reflecting now? What will I do differently next time I attempt this activity?

These self-reflecting exercises and life skills can apply to any field where people need to memorize knowledge, work with others, and creatively solve problems. **While specific academic content will be forgotten, the habits and skills developed while studying the content can remain impactful for their entire lives.** A student may learn then forget content knowledge about the Bill of Rights. However, when a student discovers that it was enjoyable and impactful to learn about the laws of the United States and the student practices empathy when explaining the laws to a struggling classmate, that student is developing learning and collaboration skills that can last a lifetime. These skills can transfer across disciplines and exponentially increase learning.

This study found that **"students who reported self-regulated learning achieved higher marks on the exam."** (Pravesti, Wiyono & Handarini, 2020) These researchers also found that **when students were both interested in the subject material and have learning motivation, they are more likely to engage in self-regulated learning and perform better.**

To sum this idea up, when students learn life skills, they reinforce their learning in class. Their learning in class also reinforces their life skills.

Findings About Teacher Development and Administrator Roles

Takeaway 4: When teachers attend professional development programs as a group and have reflection and implementation discussions, they improve their teaching practice much faster than do other teachers trying to improve by themselves.

Current Professional Development Issues

Teachers are required to attend many professional development or continuing education programs throughout the year. Yet, most teachers I talked to said that these programs often fail to yield the results that schools hope for. Teachers David Ghenassia and Cathy Lacey both said that professional development courses can often be difficult to apply to their classes.Through my interviews I discovered that **there is little guidance, oversight, or follow-up after professional development programs helping teachers implement the strategies learned in professional development courses.**

I further learned that **teachers often go to professional development classes alone** and often **do not have the means, time, or incentives to share their knowledge to other teachers**, resulting in knowledge silos: a lost opportunity of teachers sharing best practices with each other. When teachers are not aligned in how or what they teach, this creates confusion among students.

Improvements to Professional Development of Teachers

To solve these problems, I propose two steps: First, schools can organize teachers into cohorts that take the same professional development classes. Second, schools can formally make time for teachers to collaborate and discuss progress in implementing professional development techniques. Schools can also facilitate informal opportunities for teachers to develop relationships and share knowledge.

Teachers can form relationships with each other while attending continuing education classes, and they can share lessons learned in their processes of implementing new strategies. While researching knowledge silos, I discovered Salesforce's consulting advice for organizations seeking to break down knowledge silos and distribute knowledge. They say, "One way to break down knowledge silos is to educate, work, and train together in cross departmental exercises," ("How to break team silos with these 5 tips"). Applied to the public education world, this can mean different groupings of teachers, or even a mixture of administrators, guidance counselors, supportive faculty, and teachers, though the effects of these mixtures would need to be studied further. For teachers, I propose several organizations of cohorts, with examples, based on advice from interviews of teachers:

- Grade level -
    - 7th grade teachers learning about teaching student emotional development
- Subject area -

    - Math teachers learning about using new strategies to relate math to real life to increase motivation of students

- Experience level - 7th Grade Teacher Jhon Duran mentioned that when he was a first year teacher he often struggled dealing with a variety of situations in class, like when students intentionally ignore his directions, because of a lack of experience. He said, “More experienced teachers gave me great advice. I wish I could have received more advice like this, earlier. It would have been very tough without the mentorship of other [experienced] teachers.”

    - First year teachers can take foundational classes together, while experienced teachers can take classes that update their pedagogical knowledge with new understandings in neuroscience. Teachers varying in experience levels can also attend other classes together to share information with each other as they attend the event.

- Knowledge -

    - Teachers that are adept at technology can take high-level technology application classes, while teachers not well versed in technology can take classes on how to use the Zoom application

- Interest - Teachers who like teaching by storytelling and social activities can group together, while teachers that want teach with student-led projects can learn how to create classroom cultures and activities that develop independence and curiosity

- Julie Richard, Theater teacher

How Professional Learning Communities Lets Teachers Help Each Other

Schools can encourage and support professional learning communities (PLC), where teachers align similar teaching values, debate teaching methods, review and audit each other's classes, share feedback. Professional learning communities are not a new idea, but not all PLCs are effective in improving the ability of teachers' teaching abilities, nor improving the student learning, measured by grades on state exams. Drawing on a metaanalysis of PLCs, I drew several critical elements of effective learning communities:

1. Groups must have "shared values and norms," meaning that participants should come to a consensus of similar beliefs about the way learning happens, what the purpose of education is, and what students' and teachers' roles are in education. (DuFour, 2004)
2. Groups must be "focused on student learning", not just improving how teachers feel about their own teaching. The difference is that student learning is the goal; teachers' teaching is merely one of many methods for students to learn. Educators should focus on the goal and not be too constrained by one prominent method. (DuFour, 2004)
3. The third characteristic is reflective dialogue that leads to "extensive and continuing conversations among teachers about curriculum, instruction, and student development." (Newmann et al., 1996, p. 182)

4. According to Coordinator of Digital Learning Kristin Hearn, "[Professional development] group sessions go better in small groups because people are more vulnerable and will discuss what is actually happening." Once groups are too large, teachers will not feel comfortable sharing their struggles, challenges, and lessons learned.

In summary, teachers will improve most when they attend professional development sessions together and then participate in effective professional learning communities. **These strategies help create a unified vision among teaching teams, trust and friendship between teaching which contributes to a positive workplace environment, and a focus on students' learning rather than teachers' teaching.**

Takeaway 5: New systems of measuring and evaluating teacher performance at the district and school level can give teachers more freedom to innovate in teaching methods that will help students develop life skills. Many current evaluation systems place too much emphasis on test scores and other factors outside of teacher control, thereby discouraging teachers from addressing other classroom needs like developing relationships with students or cultivating students' life skills.

Problems with Current Methods of Evaluating Students and Teachers

Since the No Child Left Behind Policy in 2001, standardized testing has become a national standard. One of the principal reasons for standardized testing was to increase accountability for schools and school administrators. Therefore, standardized testing seemed to be a reasonable way to compare the improvement of students and teachers based on standardized benchmarks like South Carolina's Palmetto Assessment of State Standards test, national Common Core assessments, and Program for International Student Assessment (PISA). **However, standardized testing is not a reliable metric of determining student knowledge, and especially not ability.** The tests may help teachers and administrators receive bonuses or be subject to punishments, but they are not helpful for students for a simple reason: **Standardized test scores are not good predictors of professional ability of students, nor are they representative of larger country-wide economic production capabilities.** For example, the United States scores lower than Vietnam, Slovakia, and Malta in the international Math tests on

PISA, yet our GDP per capita is higher than all of these countries. (DeSilver, 2020) The article "Race to the Top: A Belief-Dependent Reality" by William J. Mathis illustrates the need to focus on soft skills:

> "The Common Core website (http://www.corestandards.org) generously displays testimonials supporting the talismanic nature of this icon. However, how this cognate will meet the needs of society 40 years into the future is not explained. **Given the obsolescence of knowledge and the speed of technological change, the sounder approach would be in teaching soft skills such as adaptability, cooperation, teamwork, social conscience, and the like."** (Mathis, W.J., 2011)

There are two problems with using mass data of student test scores and then cross examining with teacher's evaluations. **First, measuring teacher's abilities based on the outcome of students does not consider all of the external factors affecting student learning**: local culture, local economy, teacher differences, income levels of students (only partially represented by free/reduced lunch vs. not reduced lunch), and individual student differences. **Second, it is difficult to quantitatively prove who is a good teacher and who is not because there are many different factors that might make a teacher good.** A teacher may be great at organizing content, which will cause some kids to succeed but may be a terribly boring lecturer; the teacher may have innovative ways of teaching that work great for creative kids but terrible for kids without self-direction skills or background. The data Mathis (2011) quotes also support this conclusion:

> "In his New York City study, Corcoran found that the variation in teacher value-added scores provided an unacceptable uncertainty rate of 34% when three years of data

were used. The figure increased to 61% when only a single year's test scores were employed (Corcoran, 2010). Similarly, Briggs and Domingue's (2010) reanalysis of the Los Angeles Times rating of teachers found that teacher success categories changed in 54% of the cases when an equally (or more) appropriate model was used. The error rates and fundamental invalidity of such systems argue that they cannot be used as a way of promoting student achievement or improving teacher quality." (Mathis, 2011)

In summary, these three difficulties make the current common practice of incentivizing or punishing teachers based on student standardized assessment ineffective:

1) Ineffective assessment of student abilities and student improvement by using standardized tests distorts the true value students receive from education. Students may learn important lessons in class but not perform well on standardized tests; likewise, students excelling on standardized tests may not be prepared to succeed because of a deficiency of foundational life skills.
2) It is difficult to distinguish between teacher-controlled factors and environment-dictated factors that influence student learning. Marzano (2017) says in his book *The New Art and Science of Teaching*, "many factors other than the use of instructional strategies affect student learning." **Teachers should not be punished or rewarded for things that are not in their control.**
3) It is difficult to quantify what skills or strategies make a teacher good. As Marzano (2017) says, "No single instructional strategy can guarantee student learning for a number of reasons. One is that...instructional strategies work in concert or sets and should not be thought of as independent interventions. Still

another is that educators have to use strategies in specific ways to produce positive results."

Solution to Improving Evaluation Methods

I propose that local schools and school districts should set their own criteria for how to measure teachers. It does not make sense to compare standardized English and Math scores of students in low-funded schools in high-poverty areas with students in high-income, well financed school systems. Students in both areas need to learn different knowledge and skills. The Every Student Succeeds Act (ESSA) of 2015 responded to the overly stringent national testing of No Child Left Behind (NCLB). Now ESSA allows for local schools and states to determine **one more way to prove how they are improving students' education** (access to high level classes, funding, etc.) (*The every student succeeds act: Explained* 2021). **The next step is for schools to embrace this freedom under the law and truly investigate, debate, and then choose how to measure and reward teachers.** Phillip Bramblett, assistant principal of Powdersville High School, said that administrator and fellow teacher observations of classrooms have been effective at his school for giving coaching feedback to teachers on how to improve. He also said this builds trust between teachers and between teaching staff and administrators.

Schools might measure success of teachers in many ways:

1. Student ratings of teachers' impact on their education
2. Student-reported engagement and participation in classes
3. Colleague teacher evaluations

4. Teacher self-evaluations of learning and improvement
5. Teacher self-evaluations of their connections with students and impactful conversations they have with students

Leaning on any one metric can deleteriously skew the results of teacher evaluations. Therefore, a wide mixture of factors can provide a well-rounded picture of teachers' performance. Based on a more well-rounded picture of how teachers contribute to student success, they can be incentivized in salary and with benefits to provide more value to students.

Takeaway 6: School administrators and teachers can integrate principles from psychology, sociology, and behavioral economics to make better incentives for teachers and students to do their roles better. Students are heavily influenced by the social norms and values of peers, and educators can mold this to the advantage of students. Likewise, teachers' job satisfaction is greatly influenced by relationships with other teachers and with the administration.

Psychology Gives Insight into Human Decisions

Humans' behaviors and decisions are strongly influenced by external and internal incentives. The fields of psychology and behavioral economics have troves of insight which can be applied to the incentives of administrators, teachers, and students in the education system. Specifically, organizational psychology can be particularly insightful for recognizing the mixture of financial, emotional, and social incentives for workers in the education system. Many practices in education are based on traditional ideas of education developed in the 1800s and 1900s, but applications of the modern understanding of the human brain can augment how teachers teach and how learners learn. "Organizational psychology students learn about human behavior in work settings by examining the social and cognitive factors that influence actions and thoughts. Industrial/organizational psychologists use their understanding of the human psyche to develop effective training programs, resolve workplace disputes, improve employee morale, and boost company performance." (Smith, 2020)

If educators referenced common practices from other diverse sources- such that of businesses, governments institutes, or academic professionals- in order to incentivize employees and members of the public, educators would realize that there are many other ways to incentivize students. David Centola, professor of sociology at University of Pennsylvania discusses the power of "strong connections" in his book "Change: How to Make Big Things Happen." Centola's research focuses on changes of behavior in networks of people. He found that people make significant changes in adopting new behaviors when they have strong social connections to at least several people who do the behaviors; in contrast, if the social connections are weak, or if there are not at least several different connections, people are less likely to make the behavior change (Centola, D., 2020). This finding applies to behaviors of people in tight groups: when teachers have strong connections to other teachers who are constantly learning and engaging in effective professional development, the teachers are more likely to adopt these positive behaviors. Likewise, when students see other students who do not engage in class, students are influenced to not engage in class and be excited for learning. This echoes my experience in most of my public education and much of my university experience.

Student Incentives

Currently, the most commonplace external incentives to encourage student engagement in classes and homework are grades and punishments for bad behavior. While these can be effective for some students, there are many other incentives that work for students, including a classroom culture that rewards engagement, teachers modeling good learning behaviors, and

communicating high expectations for students (Marzano, 2017). Students can be encouraged or offered opportunities to pursue their curiosity, to take ownership over projects, or to create value.

Educators should pay attention to student behaviors because there is a self-reinforcing ripple effect: once one student starts a behavior, that student can have strong influences on other students to follow the behavior as well (Centola, D., 2021).I have firsthand observed that students' engagement and enthusiasm for learning (or lack thereof) greatly influences other students in the class. **In summary, educators should think about what incentives, external or internal, might encourage students to engage in learning.**

Teacher Incentives

Teachers David Ghenassia and Cathy Lacey both introduced an increasingly common practice in the education world: micro-credentialing. Micro-credentials are certificates intended to prove that a teachers has either taken a professional development course and developed a skill, or that the teacher has independently learned a skill and passed a test to communicate their proficiency. DigitalPromise.org, a micro-credentialing organization certifying education skills, says, "Micro-credentials provide a pathway to personalizing and recognizing professional learning. They allow employers to verify the skills their employees demonstrate, regardless of where and how they learned them," ("Micro-credentials, Macro Rewards", 2020). **Teachers can be incentivized with small salary increases, like $500 per year, to get micro-certifications. Then if they organize a training for other teachers to distribute the knowledge, they could receive an additional $500 increase to their salary.**

Over COVID many Professional Learning Communities autonomously decided not to do PLC. This results in teachers spending almost 100% of their days in classrooms without opportunities for interaction with other teachers. If districts decide to continue with online teaching, then local school administrations need to find a solution to give teachers social and emotional support, as well as effective professional training.

Teachers are also incentivized by the amount of control they have in their classroom. "An ever-increasing body of research shows that professionals are rarely motivated when they have little autonomy. Researchers have illuminated why autonomy is essential for motivation and why exclusively top-down approaches to change are almost always guaranteed to fail," (Knight, 2019). When teachers feel they do not have enough autonomy, their morale can lower, or they may even quit their job. Less trust in teachers and administrators by the public has resulted in an increasing amount of regulations, national standards, and requirements that new policies be based on previously documented evidence-based interventions.

A local newspaper in Columbia, South Carolina called The State published a story that illustrates the problem of not giving teachers enough autonomy and trust. A teacher named Elizabeth Walen who quit teaching in York County in 2016, citing the emphasis on testing and lack of autonomy as the chief reasons for quitting.

> "At one point, Walen said she was giving students practice standardized tests monthly. Each test stole time from teaching and took hours to grade. "And then what do you do with those tests? You've been practicing for a test that you haven't even learned the stuff for," she said. (Self, 2018)

> Nobody likes to be constantly watched over their shoulder. Teachers can be incentivized to do good work and be the best teachers they are if given autonomy. When teachers are forced to do traditional practices under the threat of being fired if innovative practices fail, teachers are unlikely to perform at their best.

Teacher-Administrator Relationships Are Critical Key to Success

Teachers' behaviors and incentives are also affected by the relationships they have with administration: relationship difficulties between faculty and administration can create stress in the workplace which can de-incentivize some teachers from being more proactive. With positive support by the administration for the teachers, Phillip Bramblett, assistant principal at Powdersville High School, said that teachers at his school are much more motivated to innovate and experiment with teaching methods as well as seek help from other teachers because there is a "supportive culture" and a "stable administration." He further said that, "When teachers know you support them, it makes the workplace much more effective, but it takes time." Katie Cole, the other assistant principal at Powdersville High School, said "We give extra planning time for teachers, and we also have special teacher appreciation lunches and gift baskets." This goodwill with the administration promotes trust and cooperation, as well as encourages teachers to take initiative in learning more about teaching strategies, psychology of students, or other areas that might relate to the classroom.

Communication Between Teachers-Administrators Is Essential

At the county district level, administrators can seek feedback from teachers through online forms like Google Forms, they can be transparent in communicating the administration's actions and perspectives, and they can have a policy where teachers are welcomed into the superintendent's office. Teacher Julie Richard, assistant principals Phillip Bramblett, Katie Cole, and administrators Kristin Hearne, Becky Brady, and Jane Harrison all mentioned how Superintendent Robbie Binnicker at Anderson School District 1 had an "open door" at the county office, in contrast to other districts which may not have effective channels to listen to teachers' concerns. All 6 educators in Anderson School District 1 cited the supportive culture of Anderson School District as being a reason for the very low turnover in the district.

It is essential that school administrators listen to the ideas of teachers or supportive faculty to promote education innovation and high team morale. "Scholars suggest that **most strategic proposals to add capacity or develop new products or processes take their fundamental shape at lower levels of hierarchical organizations.** Bower observed that the allocation of funding amongst projects is substantially shaped by the extent to which managers at middle levels of the organization decide to support, or lend impetus, to some proposals and to withhold it from others. (Christiansen, 1996, pg. 3)

Sometimes it can be difficult to get feedback from teachers, so **school districts can have focus group meetings of teachers, guidance counselors, supporting faculty, and administrators.** The Fish Bone and Root Cause Analysis are two common group brainstorming activities in the supply chain and operations industry which are often applied to the education world to break down problems the district is dealing with and to develop solutions. Participants

anonymously post sticky notes during meetings to share their input assessing district issues. **School districts may desire to have large meetings to get more input, but small teams may be more effective in building relationships between teachers, supportive staff, and management.** Google and Amazon both use the "two-pizza rule," which means that teams should be small enough to be fed by two pizzas. According to *How Google Works*, "Small teams get more done than big ones, and they spend less time politicking and worrying about who gets credit." Schmidt, E., Eagle, A., & Rosenberg, J. (2017)

Conclusion:

Educators can invite students to embrace their self-responsibility for their learning instead of expecting teachers to do the learning for them. Educators can create opportunities for students to develop their skills and knowledge through challenging and enjoyable methods because this will increase students' motivation and will promote life-long learning habits. Students can practice learning cycles which they will use for their entire lives, where they are first exposed to new content and challenges, then learn from their attempts to overcome the challenges, next self-reflect on their experience, and finally fulfill their goals and set new goals. This learning process will develop their toolkit for self-reliant success and build their knowledge of themselves, their peers, their communities, and the world.

To better encourage students to adopt enjoyable and efficient learning habits, teachers can model good learning behaviors, share examples from their own lives, and build relationships with students through listening to students' experiences. While teaching content that adheres to state and national curriculum, teachers can also explicitly teach life skills like how to learn, how to work together with others, and how to self-manage emotions. Making students do activities where they do these skills is not enough; the teacher needs to explain why these activities are important and explain how these skills are relevant to students.

School administrators and teachers should consider the psychology and incentives that direct their behavior as well as the behavior of students. To enable teachers to develop their pedagogical skills, school administrations can set up Professional Learning Communities of teachers. Then, administrations can design incentives for teachers to interact with each other and share knowledge, like attending professional development trainings in groups and then forming

discussion groups for how to implement the trainings in the classrooms. Teacher measurement and evaluation systems might need to be reevaluated to make sure that their priorities align with what will best serve students. Standardized test scores are a popular way of measuring success of teachers and school administrators, but teaching curriculum content with only standardized test scores in mind does not serve students as well as teaching life skills would. Therefore, new systems should take into account a variety of factors assessing teacher and administrator performance, including self-evaluation, reviews from colleagues, student reviews, micro-credentials, and more. Individual schools and school districts can determine what factors are relevant, given the different resources and needs of each school district.

In public education, only the high-level principals and superintendents can make meaningful large-scale changes, but they are long disconnected from the student experience, even more so as new technology has greatly changed the student experience. How well each school, school district, and state does in education will likely depend on how well administrators treat their teachers and supportive staff and if they listen to the innovative ideas of their teachers and faculty.

Education can learn many lessons form the business world in terms of management practices. However, education should not be confused as being an industrial factory manufacturing human capital and creativity as it is measured on static standardized tests that will be irrelevant as soon as the incentive system changes.

I advocate that teachers continue their lifelong pursuit of education and learning, sharing this passion with students. The world of education is changing rapidly. The world needs innovative educators backed by supportive administrators. With so many new educational tools

for learning and so many new channels to create value for humanity, students have incredible opportunities to make the world a better place. As educators, it is our task to give them these opportunities.

Bibliography:

Anderson, T., B. Bell, L. Bencze, J. Bijker, W. Carr, S., . . . Wenger, E. (2019, January 01). Professional development learning environments (PDLEs) embedded in a collaborative online learning ENVIRONMENT (cole): Moving towards a new conception of online professional learning. Retrieved March 20, 2021, from https://link.springer.com/article/10.1007/s10639-018-9686-6

Beed, P., Hawkins, E., & Roller, C. (1991). Moving Learners toward Independence: The Power of Scaffolded Instruction. *The Reading Teacher, 44*(9), 648-655. Retrieved March 28, 2021, from http://www.jstor.org/stable/20200767

Centola, D. (2021). *Change: How to make big things happen*. New York: Little, Brown Spark.

Christensen, C., & Bower, J. (1996). Customer Power, Strategic Investment, and the Failure of Leading Firms. *Strategic Management Journal, 17*(3), 197-218. Retrieved April 16, 2021, from http://www.jstor.org/stable/2486845

DeSilver, D. (2020, August 21). U.S. academic achievement lags that of many other countries. Retrieved April 16, 2021, from https://www.pewresearch.org/fact-tank/2017/02/15/u-s-students-internationally-math-science/

DuFour (2004). What is a "Professional Learning Community"? [electronic version] Educational Leadership, 61 (8) (2004), p. 6

The every student succeeds act: Explained [Video file]. (2021, February 05). Retrieved April 14, 2021, from https://www.edweek.org/ew/articles/2015/12/07/the-every-student-succeeds-act-explained.html

Fisher, D., & Frey, N. (2015). TEACHER MODELING USING COMPLEX INFORMATIONAL TEXTS. *The Reading Teacher, 69*(1), 63-69. Retrieved March 28, 2021, from http://www.jstor.org/stable/24574715

Gates, B. (n.d.). A guide to worrying in the 21st century. Retrieved April 14, 2021, from https://www.gatesnotes.com/Books/21-Lessons

Goodlad, J. I. (1979). What schools are for. Phi Delta Kappa Educational Foundation.

Harari, Y. N. (2019). Education: Change is the Only Constant. In *21 Lessons for the 21st Century* (pp. 181-197). London: Vintage.

How to break team silos with these 5 tips. (n.d.). Retrieved April 14, 2021, from https://www.salesforce.com/products/sales-cloud/resources/breaking-the-silo-mentality/

Li, C. (n.d.). The COVID-19 pandemic has Changed education FOREVER. This is how. Retrieved April 08, 2021, from https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/

Loh, Kok Khiang. "Teacher Modeling: Its Impact on an Extensive Reading Program." *Scholar Space*, University of Hawaii National Foreign Language Resource Center, 1 Oct. 2009, hdl.handle.net/10125/66832.

Lythcott-Haims, J. (2016). How to Raise an Adult: Break Free of the Overparenting Trap and Prepare Your Kid For Success. New York: St. Martin's Griffin.

Marzano, R. J. (2017). *New Art and Science of Teaching*. Solution Tree.

McPartland Jason C., (2018) "Synergy in Learning, Teachers and Student Support Assistants Working Together to Promote Learner Metacognition in Post-Compulsory Education", *Teaching in Lifelong Learning* 8(2). doi: https://doi.org/10.5920/till.537

Micro-credentials, Macro Rewards. (2020, April 28). Retrieved April 16, 2021, from https://digitalpromise.org/initiative/educator-micro-credentials/

Montessori, M., & Claremont, C. A. (2019). The Absorbent Mind. In *The Absorbent Mind*. Amsterdam: Montessori-Pierson Publishing Company.

Newmann, F.M. (1996). Authentic achievement: Restructuring schools for intellectual quality. Jossey-Bass Publishers, San Francisco

Pravesti, Wiyono, & Handarini (2020). Examining the Effects of Guidance and Counseling on the Self-Regulated Learning for College Students. Journal for the Education of Gifted Young, 8(1).

Schmidt, E., Eagle, A., & Rosenberg, J. (2017). *Google: How Google Works*. New York: Grand Central Publishing.

Self, J. (2018, May 08). Classrooms in Crisis: Why SC teachers are quitting in record numbers. Retrieved April 16, 2021, from https://www.thestate.com/news/local/education/article205569864.html

Skiba, R., & Losen, D. (2016). From Reaction to Prevention: Turning the Page on School Discipline. *American Educator, 39*(4), 4-11.

Smith, C. (2020, October 12). Organizational psychology Careers: BestColleges. Retrieved April 16, 2021, from https://www.bestcolleges.com/careers/psychology/organizational-psychology/

TedTalk: Do Schools Kill Creativity? [Video file]. (2007, January 06). Retrieved April 08, 2021, from https://youtu.be/iG9CE55wbtYP

Appendix

Part A. Interviewees:

Teachers:

1. Cathleen Lacey (7th Grade Social Studies Teacher at Blythewood Middle School)
2. Julie Richard (Powdersville High School)
3. Jhon Duran (7th Grade Teacher at Lakes and Bridges Middle School)
4. Gabriel Lowery (Anchorage Montessori School)
5. Keith Harjehausen (Anchorage Montessori School)
6. David Ghenassia (Florida School)

Assistant Principals:

7. Katie Cole (Powdersville High School)
8. Phillip Bramblett (Powdersville High School)

Superintendents

9. Robert Maddox (Lexington School District 4)
10. Robbie Binnicker (Anderson School District 1)

Guidance Counselors:

11. Shelia Parkman (Career Specialist at Lexington School District 4)
12. Ashley Meyer (Senior Associate at Kennedy and Company Education Strategies, former Director of College Counseling at Holy Spirit Preparatory School)
13. Grace Chapin (University of Chicago Admissions Officer)

School District Administrators:

14. Jane Harrison (Assistant Superintendent for Curriculum, Instruction Public Information Spokesperson at Anderson School District 1)
15. Becky Brady (Director of Personnel at Anderson School District 1)
16. Kristin Hearne (Coordinator of Digital Learning at Anderson School District 1)

Part B. Literature about to education, management, psychology, and college admittance

- The Absorbent Mind, by Maria Montessori
- The New Art and Science of Teaching, by Robert J. Marzano
- Limitless: Upgrade Your Brain Learn Anything faster, and Unlock Your Exceptional Life, by Jim Kwik
- 21 Lessons from the 21st Century, by Yuval Noah Harrari
- Who Gets In and Why, by Jeffrey Sellingo
- Fluent Forever: How to Learn Any Language Fast and Never Forget It, by Gabriel Wyner
- A Way of Being by Carl Rogers
- How to Raise an Adult: Break Free of the Overparenting Trap and Prepare Your Kid for Success, by Julie Lythcott-Haims
- Hit Refresh, by Satya Nadella (CEO of Microsoft)
- How Google Works, by Eric Schmidt and Jonathan Rosenberg
- Change: How to Make Big Things Happen, by Damon Centola